AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A loop apparatus, comprising:

a plurality of gain stages connected in series to amplify a radio frequency (RF) signal having a voltage, wherein each gain stage ~~increases the voltage of the RF signal, and~~ includes an input port that receives the RF signal and an output port that transmits the resulting amplified signal, and each gain stage increases the voltage of the RF signal; and

a plurality of feedback loops ~~that cancel an undesired offset of the resulting amplified signal, wherein~~ where each feedback loop ~~connects~~ is coupled to the output port and the input port of a corresponding one of the gain stages[[,]] and such that each gain stage is connected to a corresponding feedback loop ~~that cancels the~~ to cancel an undesired offset of its corresponding gain stage.

2. (Original) The loop apparatus of claim 1, wherein the undesired offset is a direct current offset voltage, and each feedback loop includes a direct current offset canceling unit for rejecting the direct current offset voltage accumulated by its corresponding gain stage.

3. (Original) The loop apparatus of claim 2, wherein each direct current offset canceling unit includes a high-pass filter that filters the direct current offset voltage.

4. (Original) The loop apparatus of claim 1, wherein each gain stage includes a variable gain amplifier.

5. (Original) The loop apparatus of claim 1, wherein the plurality of gain stages and feedback loops are mounted on a chip, and each feedback loop includes a capacitor mounted on the chip.

6. (Currently Amendmend) The loop apparatus of claim 1, wherein the RF signal is an analog radio frequency signal.

7. (Currently Amended) A method for controlling a gain of a radio frequency (RF) signal, comprising:

amplifying the voltage of an RF signal by propagating the RF signal through a plurality of gain stages connected in series, wherein each gain stage increases the voltage of the RF signal, and includes an input port receiving the RF signal and an output port transmitting the resulting amplified signal; and

canceling an undesired offset of ~~the resulting amplified signal with~~ each gain stage using a plurality of feedback loops, wherein each feedback loop ~~connects~~ is connected to the output port and the input port of a corresponding one of the gain stages, such that each gain stage is connected to a corresponding feedback loop that cancels the undesired offset of its corresponding gain stage.

8. (Currently Amended) A direct conversion receiver, comprising:

an amplification unit that receives and amplifies a radio frequency (RF) signal, wherein the amplification unit includes:

a plurality of gain stages connected in series to amplify the RF signal having a voltage, wherein each gain stage ~~increases the voltage of the RF signal, and~~ includes an input port that receives the RF signal and an output port that transmits the resulting amplified signal, and each gain stage increases the voltage of the RF signal, and

a plurality of feedback loops ~~that cancel an undesired offset of the resulting amplified signal, wherein~~ where each feedback loop ~~connects~~ is coupled to the output port and the input port of a corresponding one of the gain stages[[,]] and such that each gain stage is connected to a corresponding feedback loop ~~that cancels the~~ to cancel an undesired offset of its corresponding gain stage; and

a mixer that demodulates the amplified signal by mixing the amplified RF signal with a local oscillation signal to form a demodulated baseband signal.

9. (Original) The direct conversion receiver of claim 8, further comprising an analog-to-digital converter that converts the demodulated baseband signal to a digital data stream.

10. (Original) The direct conversion receiver of claim 9, further comprising a channel selection filter that removes an out-of-band signal from the demodulated baseband signal.

11. (Original) The direct conversion receiver of claim 8, wherein the undesired offset is a direct current offset voltage, and each feedback loop includes a direct current offset canceling unit for rejecting the direct current offset voltage accumulated by its corresponding gain stage.

12. (Original) The direct conversion receiver of claim 11, wherein each direct current offset canceling unit includes a high-pass filter that filters the direct current offset voltage.

13. (Original) The direct conversion receiver of claim 8, wherein each gain stage includes a variable gain amplifier.

14. (Original) The direct conversion receiver of claim 8, wherein the plurality of gain stages and feedback loops are mounted on a chip, and each feedback loop includes a capacitor mounted on the chip.

15. (Currently Amended) The direct conversion receiver of claim 8, wherein the RF signal is an analog radio frequency signal.

16. (Original) The direct conversion receiver of claim 8, wherein the mixer receives a plurality of clock signals to generate the local oscillator signal, wherein each of the clock signals has a frequency less than the local oscillator signal.

17. (Previously Presented) The loop apparatus of claim 1, wherein the resulting amplified signal comprises an analog signal.

18. (Previously Presented) The loop apparatus of claim 1, further comprising a mixer that demodulates the resulting amplified signal and forms a demodulated baseband signal.

19. (Previously Presented) The loop apparatus of claim 18, further comprising an analog-to-digital converter that converts an analog signal corresponding to the resulting amplified signal to a digital data stream.

20. (Previously Presented) The loop apparatus of claim 1, wherein the loop apparatus is provided within a single amplification unit.

21. (Previously Presented) The method of claim 7, wherein the resulting amplified signal comprises an analog signal.

22. (Previously Presented) The method of claim 7, further comprising demodulating the resulting amplified signal and forming a demodulated baseband signal.

23. (Previously Presented) The method of claim 21, further comprising converting an analog signal corresponding to the resulting amplified signal to a digital data stream.

24. (Previously Presented) The method of claim 7, wherein the amplifying and canceling occur with a single amplification unit.

25. (Previously Presented) The direct conversion receiver of claim 8, wherein the resulting amplified signal comprises an analog signal.

26. (Previously Presented) The loop apparatus of claim 1, further comprising an antenna unit to receive the RF signal.

27. (Previously Presented) The loop apparatus of claim 26, wherein the antenna unit provides the RF signal to at least a first one of the gain stages.

28. (Previously Presented) The method of claim 7, further comprising receiving the RF signal from an antenna unit.

29. (Previously Presented) The direct conversion receiver of claim 8, wherein the amplification unit includes an antenna unit to receive the RF signal.

30. (Previously Presented) The direct conversion receiver of claim 29, wherein the antenna unit provides the RF signal to at least a first one of the gain stages.